



## Feedline Current Choke

DXE-FCC050-H05-A

DXE-FCC050-H05-A-INS-Rev 2b



© DX Engineering 2013

P.O. Box 1491 · Akron, OH 44309-1491 USA

Phone: (800) 777-0703 · Tech Support and International: (330) 572-3200

Fax: (330) 572-3279 · e-mail: [DXEngineering@DXEngineering.com](mailto:DXEngineering@DXEngineering.com)

## Introduction

The **DXE-FCC050-H05-A** Feedline Current Choke (FCC), using Maxi-Core<sup>®</sup> technology, prevents unwanted RFI in 50  $\Omega$ , coaxially fed antenna systems. It provides excellent feedline decoupling and low loss performance from 1 to 60 MHz. It is power-rated for 2 kW continuous, 5 kW intermittent. The FCC has significantly higher common mode impedance and a larger effective core area than similar line isolators, including conventional enameled wire or bead baluns. This results in:

- Higher power handling with lower loss – more power to the antenna
- Improved antenna bandwidth – easier on the radio
- Reduced RFI – less interference to and from your radio
- Compensate for a less than optimal ground system – Stop feedline radiation

If you suffer from RF interference, such as a "hot" mike or other equipment, disturbing audio equipment in your house or your neighbors while transmitting, your feedline may be acting as part of your antenna system. While most common advice is to improve the station's RF ground, the root of the problem is in the poor isolation of the feedline from antenna currents. In other cases, as the coax feedline travels through the near-field of the antenna, the current can be re-introduced to the feedline after the balun. If your SWR is already low and you wish to reduce feedline radiation and improve reception, an FCC is recommended.

The FCC can be used with many varieties of antennas including verticals with elevated radials and center-fed vertical dipoles (half-wave verticals).

The FCC comes in a formed aluminum case with a grounding post, PTFE / Silver SO-239 connectors and stainless steel hardware.

## Installation

Install the DX Engineering Feedline Current Choke at the point where the feedline exits the area of the antenna. One end of the FCC has an isolated SO-239 connector; the opposite end has the SO-239 attached directly to the FCC enclosure.



Isolated Connector



Direct Mounted Connector and Ground Terminal

Normally, the FCC should be installed with the isolated SO-239 on the antenna side of the feedline. This will substantially reduce unwanted feedline radiation or unwanted signals without the need for an improved antenna ground system. This is especially true for center-fed verticals or any antenna where the feedline parallels an active antenna element.

The ground terminal on the FCC is a convenient way to ground the shield of the coax cable, if necessary. If the FCC is mounted in close proximity to ground level on an insulated support or post, a short wire to a dedicated ground system might be needed. A 5 foot long, 3/4 inch OD copper pipe can be used. The ground wire should be kept as short as possible to prevent any resonance. *Do not attach an antenna ground system, counterpoise, or radial array to this terminal.*

If the FCC is used near the operating position, a short connection to the station ground might be helpful.

*Note: Some experimentation with the ground system may be needed. In some case, grounding the FCC may result in poor performance or a higher noise level. This is typically caused by ground loops with other equipment. There is no reduction in performance if the FCC case is not grounded*

The FCC is not affected by moisture and may be left outside in all types of weather, including heavy rain, as long as it is positioned so that water will drain from the case. However, they may not be *immersed* in water and care should be taken to avoid blocking the drainage of any water that could get inside. To enhance weather resistance, it may be useful to put a bead of high quality, non corrosive, marine grade silicone, like DX Engineering part number **UMI-82180**, along the seam where the two halves of the case meet. Depending on the mounting orientation, leave a small opening in the seam at the lowest point to allow any condensation to drain. Silicone which contains acetic acid, which has a vinegar-like smell, is corrosive to aluminum and should be avoided.

## **Lightning Protection**

Proper lightning protection should be installed for any antenna system. Lightning suppressors should be installed on the feedline before they enter the house. The suppressor normally grounds the feedline at that point. See our web-site, [www.dxengineering.com](http://www.dxengineering.com), for more information on lightning protection and grounding.

## Technical Support

If you have questions about this product, or if you experience difficulties during the installation, contact DX Engineering at (330) 572-3200. You can also e-mail us at:  
[DXEngineering@DXEngineering.com](mailto:DXEngineering@DXEngineering.com)

For best service, please take a few minutes to review this manual before you call.

## Warranty

All products manufactured by DX Engineering are warranted to be free from defects in material and workmanship for a period of one (1) year from date of shipment. DX Engineering's sole obligation under these warranties shall be to issue credit, repair or replace any item or part thereof which is proved to be other than as warranted; no allowance shall be made for any labor charges of Buyer for replacement of parts, adjustment or repairs, or any other work, unless such charges are authorized in advance by DX Engineering. If DX Engineering's products are claimed to be defective in material or workmanship, DX Engineering shall, upon prompt notice thereof, issue shipping instructions for return to DX Engineering (transportation-charges prepaid by Buyer). Every such claim for breach of these warranties shall be deemed to be waived by Buyer unless made in writing. The above warranties shall not extend to any products or parts thereof which have been subjected to any misuse or neglect, damaged by accident, rendered defective by reason of improper installation, damaged from severe weather including floods, or abnormal environmental conditions such as prolonged exposure to corrosives or power surges, or by the performance of repairs or alterations outside of our plant, and shall not apply to any goods or parts thereof furnished by Buyer or acquired from others at Buyer's specifications. In addition, DX Engineering's warranties do not extend to other equipment and parts manufactured by others except to the extent of the original manufacturer's warranty to DX Engineering. The obligations under the foregoing warranties are limited to the precise terms thereof. These warranties provide exclusive remedies, expressly in lieu of all other remedies including claims for special or consequential damages. SELLER NEITHER MAKES NOR ASSUMES ANY OTHER WARRANTY WHATSOEVER, WHETHER EXPRESS, STATUTORY, OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS, AND NO PERSON IS AUTHORIZED TO ASSUME FOR DX ENGINEERING ANY OBLIGATION OR LIABILITY NOT STRICTLY IN ACCORDANCE WITH THE FOREGOING.

©DX Engineering 2013

DX Engineering<sup>®</sup>, DXE<sup>®</sup>, DX Engineering, Inc.<sup>®</sup>, Hot Rodz<sup>®</sup>, Maxi-Core<sup>®</sup>, THUNDERBOLT<sup>®</sup>, Antenna Designer<sup>®</sup>, Yagi Mechanical<sup>®</sup>, and Gorilla Grip<sup>®</sup> Stainless Steel Boom Clamps, are trademarks of PDS Electronics, Inc. No license to use or reproduce any of these trademarks or other trademarks is given or implied. All other brands and product names are the trademarks of their respective owners.

Specifications subject to change without notice.

Date Printed: 26 August 2013

